

REMARKS

This paper is submitted after the final Office Action mailed April 9, 2009 in the above-identified patent application and is accompanied by a Request for Continued Examination.

In the outstanding final Office Action, claims 1, 3, 5-6, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,249,241 to Jordan et al. (hereinafter "Jordan") in view of U.S. Patent No. 6,233,007 to Carlbom et al. (hereinafter "Carlbom"). Claims 4, 10-12, and 16-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jordan in view of Carlbom in further view of U.S. Patent No. 5,923,285 to Andrusiak et al. Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Jordan in view of Carlbom in further view of U.S. Patent No. 4,774,516 to Henri et al. Claims 13 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jordan in view of Carlbom in further view of U.S. Patent App. No. 2002/0141732 to Reese et al. Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Jordan in view of Carlbom in further view of U.S. Patent App. No. 2003/0026440 to Lazzeroni et al. Claims 1, 3-6, 8, 10-13, and 15-20 are pending in the application.

By way of the foregoing, claim 1 is currently amended. Support for the amendment to claim 1 can be found at page 2, lines 6-8 and 12-15 of the specification and originally-filed claim 1, for example.

In keeping with the foregoing amendments and the following arguments, reconsideration and allowance of the remaining pending claims is respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

As briefly explained above, claim 1 has been amended to recite a head containing a radar transmitter and a radar receiver and configured to be closely associated with a radar antenna; and a signal processing unit included within said head for processing a received radar signal and for combining the received radar signal with data from at least one other source and configured to simultaneously process the received radar signal and output radar data in at least two different digital formats.

In the final Office Action, it is asserted that the Jordan teaches a signal processing unit (*see* final Office Action, page 2, line 14), but the specific component of Jordan corresponding to the signal processing unit is not identified. However, when each of the processors disclosed by Jordan in the sections cited by the Office are considered, Jordan (and Calhoun) do not disclose each and every limitation of amended claim 1. *See* Jordan, col. 5, lines 15-36 and Fig. 1 (as cited in final Office Action, page 2, line 15).

Jordan teaches a marine Vessel Traffic System (VTS). *See* Jordan, col. 2, lines 63-66. The VTS includes a Vessel Traffic Control Subsystem (VTCS) that collects harbor traffic information from multiple remote site subsystems (RSS) around the harbor and integrates, records, merges and presents the remote site data onto a single display. *See* Jordan, col. 2, line 64-col. 3, line 2; col. 5, lines 16-20. A typical remote site consists of a radar sensor system (RDSS), a remote site processor (RSP), a visual sensor system (VSS) including a video camera, and a VHF Radio System for transmitting and receiving audio signals. *See* Jordan, col. 6, lines 18-44.

The RDSS consists of a radar transmitter/receiver, a radar antenna, a radar control unit (RCU) and a radar processor (RP). *See* Jordan, col. 6, lines 17-26. The RP acquires radar data from the receiver and provides a run-length encoded radar video to the RSP. *See* Jordan, col. 9, lines 9-19. The RSP provides an interface for the setup and control of all RSS equipment and the acquisition and pre-processing of radar data, video data (data compression), and equipment status. *See* Jordan, col. 5, lines 21-37; col. 6, lines 26-35; and col. 10, lines 1-21. The RSP multiplexes the radar and video data and transmits it to the VTCS to handle. *See* Jordan, col. 6, lines 26-34. The VTCS consists of all hardware located at the VTC necessary for the setup, acquisition, control, processing and display of data from the RDSS. *See* Jordan, col. 6, lines 63-66.

Therefore, if the RP is asserted to be the signal processing unit, Jordan does not disclose or suggest several limitations of amended claim 1. Specifically, because Jordan does not discuss the location of the RP relative to the radar transmitter/receiver, Jordan does not disclose or suggest a signal processing unit included within the head containing a radar transmitter and a radar receiver, as recited in amended claim 1. Additionally, the RP does not combine the received radar signal with data from at least one other source, as recited in

amended claim 1. Instead, as previously explained, the RP acquires radar data from the receiver and provides a run-length encoded radar video to the RSP. *See* Jordan, col. 9, lines 9-19.

Moreover, if the RSP is asserted to be the signal processing unit, Jordan still does not disclose or suggest several limitations of amended claim 1. As was the case with the RP, Jordan is silent as to the location of the RSP relative to the radar transmitter and the radar receiver, and therefore does not disclose or suggest a signal processing unit included within the head containing a radar transmitter and a radar receiver. Also, the RSP provides an interface for the setup and control of all RSS equipments and the acquisition and pre-processing of radar data, video data (data compression), and equipment status. *See* Jordan, col. 6, lines 26-29. The RSP multiplexes the radar and video data and transmits it over the same link to the VTCS to handle, but they are not combined in any way to form an image of both radar and video data. *See* Jordan, col. 5, lines 21-37; col. 6, lines 26-35; and col. 10, lines 1-21. Accordingly, the RSP does not combine the received radar signal with data from at least one other source, as recited in amended claim 1.

Finally, if the VTCS is asserted to be the signal processing unit, Jordan does not disclose or suggest that the VTCS is included within a head containing a radar transmitter and a radar receiver. Instead, Jordan teaches that the VTCS is to be remotely located from the radar transmitter and radar receiver. *See* Jordan, col. 6, lines 12-23.

Moreover, it would not have been obvious to one having ordinary skill in the art to locate the VTCS of Jordan within the radar head containing the radar transmitter and receiver because Jordan teaches away from such a combination. In particular, Jordan teaches that the radar transmitter and receiver are included in the RSS, and the RSS “consists of all components resident at a VTS *remote* site necessary for the setup, acquisition, and transmission of ... radar sensor data to the VTCS.” *See* Jordan, col. 6, lines 12-23 (emphasis added). Therefore, by teaching that the radar transmitter and receiver should be remotely located relative to the VCTS, Jordan teaches away from locating the VTCS within the radar head containing the radar transmitter and receiver.

Carlstrom also does not disclose or suggest a signal processing unit included within a head containing a radar transmitter and a radar receiver. In fact, Carlstrom does not disclose or

suggest a radar transmitter and a radar receiver, but instead relates to a method and apparatus for tracking objects (such as a tennis ball or a hockey puck) using a video input. *See* Carlbom, col. 3, lines 10-14 and 45-48.

Accordingly, because neither Jordan nor Carlbom discloses or suggests a signal processing unit included within a head containing a radar transmitter and a radar receiver, as recited in amended claim 1, a *prima facie* case of obviousness cannot be maintained. Therefore, amended claim 1 is allowable over Jordan in view of Carlbom.

Claim 1 is allowable over Jordan in view of Carlbom for an additional reason, as well. Specifically, the final Office Action acknowledges that Jordan does not disclose or suggest outputting the radar data in at least two different digital formats. *See* final Office Action, page 2, lines 20-21. However, the final Office Action asserts that Carlbom teaches outputting the radar data in at least two different digital formats, and it would have been obvious to modify Jordan to include outputting the radar data in at least two different digital formats. *See* final Office Action, page 2, line 21-page 3, line 2.

However, the Applicant respectfully submits that Carlbom does not teach outputting the radar data in at least two different digital formats.

As explained above, Carlbom does not disclose a radar system, but instead teaches a method and apparatus for tracking objects (such as a tennis ball or a hockey puck) using a video input. *See* Carlbom, col. 3, lines 10-14 and 45-48. The method includes the steps of differencing present and previous frames of a video image to obtain motion regions, converting the regions to HSV color space, extracting the region corresponding to a moving objects and obtaining a motion vector to update the trajectory of the object. *See* Carlbom, abstract. Figure 5 shows video frame data being output to a video card and tracking data being output to an I/O interface from the memory of a processor. *See* Carlbom, col. 5, lines 19-50. Both the I/O interface and the video card output the tracking data and the video frames as desired, such as to the stereo matching module, a broadcast computer, or a video editor. *See* Carlbom, col. 5, lines 19-50.

Because Carlbom does not relate to a radar system, there is no mention of a radar signal. Instead, Carlbom outputs tracking data and video frame data, but this is not the same as processed radar data. *See* Carlbom, col. 5, lines 19-50. Accordingly, neither Carlbom nor

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Jordan discloses or suggests outputting a *radar signal* in at least two different formats as recited in amended claim 1. Consequently, amended claim 1 is allowable.

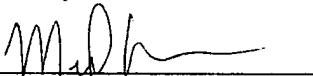
Because claims 3-6, 8, 10-13, and 15-20 depend from allowable claim 1, these claims are also allowable.

In view of the foregoing, the above-identified application is in condition for allowance. In the event there is any remaining issues that the Examiner believes can be resolved by telephone, the Examiner is respectfully invited to contact the undersigned attorney at (312) 474-6300.

Applicant submits this Amendment accompanied by a one-month extension of time. The appropriate extension fee has been paid by credit card. In the event any additional fees are required, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Dated: July 24, 2009

Respectfully submitted,

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